

The Impact of NGS Closure on CAP

Background

The 1968 Colorado River Basin Project Act directed the Secretary of the Interior to study and recommend the most feasible plan for satisfying the power needs of the Central Arizona Project. The Act expressly authorized the Secretary to enter into agreements with non-federal interests proposing to construct a thermal generating power plant, if that was the option chosen.¹ In 1969 the Secretary determined that the most feasible plan to supply CAP power requirements and to provide revenue to the Lower Colorado River Basin Development Fund was to acquire a portion of the power plant that Los Angeles Department of Water and Power (LADWP), Nevada Power Company (now NV Energy), Tucson Gas and Electric Company (now Tucson Electric Power), Arizona Public Service Company (APS) and the Salt River Project (SRP) intended to construct near Page, Arizona, which became known as the Navajo Generating Station (NGS).²

NGS consists of three coal-fired supercritical steam electric generating units with a total net capacity rating of 2,250 megawatts (MW). Unit 1 began commercial operation in 1974; Units 2 and 3 followed in 1975 and 1976. SRP is the plant operator.



The United States acquired a 24.3% interest in NGS—547 MW of capacity—for the benefit of the CAP.³ The US entitlement is about one-third larger than what is needed for CAP pumping. The additional capacity was intended to provide surplus energy that could be sold on the market to generate a revenue source to assist with CAP repayment.

Each year CAP reserves a portion of the output from the US share of NGS to serve CAP pump loads. Remaining energy from the U.S. share of NGS is considered “Navajo Surplus” and is available to be sold by the Western Area Power Administration. The net proceeds of those sales are deposited in the Lower Colorado River Basin Development Fund and applied against CAP's annual repayment obligation.

In 2009, the EPA announced its intent to develop a Regional Haze Rule for NGS. For the next several years, CAP and others worked hard to develop an alternative proposal to reduce NGS emissions, which was ultimately adopted by EPA.⁴ Nevertheless, CAP recognized that circumstances could force NGS to close sooner than anticipated, possibly as early as 2019. So in 2013 the CAP Board of Directors began a series of workshops to discuss potential NGS alternatives.⁵ That process led to the adoption of a Post-NGS Power Strategy in October 2015.⁶ The central tenet of the Board's strategy was diversification: after NGS closes, no single generation source should provide more than 15% to 20% of CAP energy needs. CAP's history

with NGS had make clear that too much reliance on any one source of power creates threats to CAP reliability and the ability to fulfill CAP's water delivery responsibilities.

In February 2017 the utility owners of NGS announced that they did not intend to operate the plant after 2019, when the Navajo Project Participation Agreement and the plant's land site lease with the Navajo Nation expire.⁷ At that point CAP created a Power Task Force to review the Board's 2015 strategy and provide guidance to staff on risk and diversification in a post-NGS power portfolio. The Power Task Force advised that once NGS was no longer available, CAP should assemble a diversified energy portfolio that covers most of CAP's base load energy needs and a portion of its variable load needs. The Task Force also recommended that CAP consider including renewable energy sources in its portfolio.

Based on the direction of the Power Task Force, CAP issued a Request for Proposals to serve a portion of its energy needs starting in 2020. The RFP closed in January 2018. Staff evaluated the responses and prepared a variety of portfolios for Board consideration. In June 2018 the Board approved two contracts—one for solar energy—that will collectively supply about 14% of CAP's base load pumping energy needs after 2019.⁸

Recently, questions have been raised about the impact that closure of NGS will have on the operation of CAP and on CAP repayment. The short answer in both cases is little to none.

Impact on CAP Operations

While CAP has long relied on NGS energy, NGS has never been CAP's sole source of power. CAWCD entered into contracts with the Arizona Power Authority for Hoover B energy in 1986 and Hoover C energy in 1987. The initial Navajo Power Marketing Plan, adopted by the Bureau of Reclamation on behalf of the Secretary of the Interior on December 1, 1987, was expressly premised on CAP receiving Hoover energy under its APA contracts.⁹

CAP also generates its own electricity when water is released from New Waddell Dam, the project's regulatory storage feature. That energy is used to offset a portion of CAP's pumping energy load.

In 1994 Reclamation, Western, CAP and SRP entered into Contract No. 94-PAO-10563, for the Long-Term Sale of Remaining Navajo Surplus Power and Coordinated Operation of Power Systems (commonly known as the "Four Party Agreement"). Under that agreement, SRP was given complete control over the entire output from the US share of NGS, as well as CAP's Hoover power and the energy generated at New Waddell Dam.¹⁰ In return, SRP agreed to supply all of CAP's pumping energy needs (from whatever source SRP chose) regardless of the availability of NGS, but only up to a specified amount of energy each year—the so-called "threshold."¹¹ If CAP needed more than the threshold amount of energy to pump water in any year, then the Four Party Agreement required CAP to buy energy from Western or from the market.¹²

From 1994 through 2010, the last full year that the Four Party Agreement was in effect, CAP purchased significant amounts of energy each year from the market. CAP relied on market purchases to supply anywhere from 7% of its annual energy needs—in 2005, when CAP delivered only 1.32 MAF due to heavy spring rains in Arizona—to more than 25% of its pumping load (in 2001, for example, a surplus year on the lower Colorado River).

Since the Four Party Agreement ended in 2011, the US share of NGS has been governed by an agreement among Reclamation, Western and CAWCD for Administration of the U.S. Entitlement in the Navajo Project (the “Administration Agreement”).¹³ Under that agreement, CAP is allowed to reserve as much NGS energy as it needs each year for CAP pumping; any remaining output from the US share of NGS is available to be sold by Western as Navajo Surplus. During the first four years under the Administration Agreement (2012-2015), NGS supplied more than 90% of the CAP pump load. Even so, CAP still purchased energy each year from the market.

In 2015, when it had become apparent that NGS was becoming increasingly more expensive than market alternatives, CAP negotiated an amendment to the Administration Agreement that allows it to curtail NGS generation for economic reasons—i.e., when the cost of energy on the market is less than the fuel cost for NGS. At that point, it is less expensive for CAP water users to pay the fixed OM&R cost of NGS and buy energy on the market than it would be to generate that energy at NGS.

Equipped with this new flexibility, CAP scaled back its use of NGS to the point that NGS energy now supplies only about two-thirds of the total CAP load. At the same time, CAP market purchases increased significantly to where they now provide 20% to 40% of CAP’s annual energy needs.

The net result of this shift away from NGS to more market-based energy has been a significant savings to CAP water users. In 2016, CAP water users ended up paying 12% less than the published pumping energy rate. The savings were even greater in 2017, as the final CAP pumping energy charge was 14% less than the published rate.¹⁴

So how will the closure of NGS affect CAP operations? CAP projects that its average cost of energy in 2020, without NGS, will be \$26 per MWh, which equates to a pumping energy rate of \$54 per acre-foot. That is more than \$10 per acre-foot less than CAP water users are paying today, even with NGS providing only 70% of the CAP load. In the aggregate, that will represent a savings of more than \$14 million to CAP water users in 2020, as compared to 2018.

Impact on CAP Repayment

The CAP repayment obligation is \$1,646,462,500, as set forth in the court-approved CAP Repayment Stipulation. The amortization schedule for the CAP repayment obligation is set forth in Exhibit A to the stipulation. On average, the annual payment owed by CAWCD is

approximately \$55 million per year through 2029, declining to \$44 million through 2043. The CAP Repayment Stipulation does not tie the repayment obligation to NGS operation in any way.

CAWCD has three revenue sources that it can use to make its annual payments: net annual revenues in the Lower Colorado River Basin Development Fund, ad valorem taxes and capital charges collected from CAP municipal and industrial (M&I) subcontractors.

Development Fund revenues. Under the CAP master repayment contract and the CAP Repayment Stipulation, net revenues to the Development Fund are applied annually toward CAWCD's annual payment. Development Fund revenues include net proceeds from the sale of Navajo Surplus energy, a surcharge on Hoover and Parker-Davis energy sold in Arizona and occasionally revenue from the use, rental, sale or exchange of CAP lands.

Since 2011, a portion of Navajo Surplus energy has been sold under a long-term contract with SRP, which currently generates about \$30 million a year for the Development Fund.¹⁵ The remainder is sold by Western each year. The Western sales have resulted in a net loss to the Development Fund every year—that is, the sale price on average is less than the cost of generating that energy at NGS. Since the end of the Four Party Agreement in 2011, losses on Western's sales of Navajo Surplus have averaged \$8.2 million per year. In 2016, those losses were \$17 million. From 2012 through 2017, net annual revenues from Navajo Surplus varied from \$11 million to \$24 million. Navajo Surplus revenues will no longer be available for CAP repayment after NGS closes.

Revenues from the Hoover and Parker-Davis surcharge typically contribute \$5-6 million per year to the Development Fund. Those revenues would not be impacted by the closure of NGS.

CAWCD is not guaranteed any specific amount of Development Fund revenues. Whatever net revenues are available at the end of each year are applied against the CAP repayment obligation, and CAWCD is then required to pay the United States the remaining balance of the annual payment. That remaining balance is paid using the other two sources of revenue available to CAWCD.

Ad valorem taxes. CAWCD is authorized to levy two ad valorem property taxes across its three-county service area. The first, limited to 10 cents per \$100 of assessed valuation, may be used for any authorized CAP purpose. The second, sometimes referred to as the "water storage tax," is limited to 4 cents per \$100 of assessed valuation and is available to be used for CAP repayment and OM&R costs; if not needed for those purposes, the 4-cent tax revenues are to be transferred to the Arizona Water Banking Fund. CAWCD currently levies both ad valorem taxes at the maximum authorized amount, which generates approximately \$63 million in annual revenue.

In recent years annual tax revenues were fully committed, but going forward the CAP Board will have increasing flexibility to apply a portion of its tax revenues to CAP repayment if it chooses.

M&I capital charges. The CAP M&I subcontracts provide for the payment of a capital charge to effect repayment of that portion of the CAP Repayment Obligation attributed to the M&I function. The subcontracts provide that CAWCD may adjust the M&I capital charge to reflect all sources of revenue.¹⁶

Because all CAP construction costs associated with federal uses—including Indian water deliveries—have already been paid by the United States and are not part of the CAP repayment obligation, CAP Indian contractors and their lessees do not pay capital charges or otherwise contribute toward the CAP repayment obligation.¹⁷

So how will the closure of NGS affect CAP repayment? There will be no impact on the amount owed by CAWCD to the United States each year. While closure of NGS will eliminate one source of revenue, CAWCD has multiple other sources that it can use to meet its annual repayment obligation.

Conclusion

Native American tribes, municipal water providers and agricultural districts in central Arizona—more than 5 million people and 350,000 acres of irrigated land—depend on CAP for the reliable delivery of reasonably priced water. Since the NGS owners decided last year to close NGS at the end of 2019, CAP has been working diligently to insure that we will have the energy we need to deliver water in 2020. CAP is confident that it will be able to deliver water in 2020 at significantly lower energy cost than today and that it can continue to meet its annual repayment obligation.¹⁸

¹ 43 U.S.C. §1523.

² Letter from Assistant Secretary of the Interior James R. Smith to President Nixon, dated September 30, 1969. Navajo Project Participation Agreement, §2.2, dated Sept. 30, 1969.

³ The US interest in NGS is actually owned by SRP “for the use and benefit of the United States.” Navajo Project Participation Agreement, §5.1.4(ii).

⁴ 79 Fed. Reg. 46514 (Aug. 8, 2014).

⁵ <http://www.cap-az.com/board/meetings/meeting/1401>; <http://www.cap-az.com/documents/meetings/06-24-2014/1.%20Linked%20FINAL%20Agenda%20CAP%20Board%20Power%20Workshop.pdf>

⁶ <http://www.cap-az.com/documents/meetings/2015-10-01/1502-4biii.%20web%20Post%20NGS%20power%20strategy.pdf>

⁷ <https://www.srpnet.com/newsroom/releases/021317.aspx>

⁸ The solar contract represents the maximum amount of unfirmed energy (30 MW) that CAP can incorporate into its portfolio given available resources. CAP will use its Hoover power contract to firm the solar output.

⁹ The Department of the Interior developed the Navajo Power Marketing Plan in consultation with the Department of Energy, the State of Arizona and CAWCD, as required by the Hoover Power Plant Act of 1984, Pub. L. 98-381.

¹⁰ Contract No. 94-PAO-10563, §7.

¹¹ The annual “threshold” was set forth in Exhibit A to Contract No. 94-PAO-10563.

¹² Contract No. 94-PAO-10563, §10.3 (“CAWCD may purchase energy from Western and other suppliers (i) to pump water in excess of the annual quantity agreed upon in accordance with Exhibit A, and (ii) to pump water during an Extended Unscheduled Outage”).

¹³ Western Contract No. 11-DSR-12296, Reclamation Contract No. 1-CU-30-P1212, dated September 30, 2011.

¹⁴ CAP water delivery rates are set well before the start of the year and are reconciled to actual costs after year end. The CAP Board approved 2016 rates in June 2015, before the Administration Agreement had been amended to give CAP the ability to curtail generation at NGS for economic reasons. The CAP pumping energy rate for 2016 was set at \$76/acre-foot. When CAP reconciled that rate to actual energy costs at the end of the year, the actual energy cost to CAP water users was \$67/acre-foot. Similarly, the published energy rate for 2017 was \$77, but the reconciled rate was \$66.

¹⁵ Letter Agreement No. 07-DSR-11901 among Western, Reclamation, CAP and SRP. By its terms, the agreement ends September 30, 2031.

¹⁶ Prior to 2003, non-Indian agricultural subcontractors also paid a \$2 per acre-foot capital charge that was applied toward CAP repayment, but that charge was eliminated as part of the consideration that those subcontractors received in exchange for relinquishing their long-term CAP entitlements. Ag Settlement Pool customers have no long-term rights to CAP water and make no contribution towards the CAP repayment obligation.

¹⁷ CAP Indian tribes do, however, pay the pumping energy costs of delivering CAP water, so they are directly impacted by higher CAP energy costs.

¹⁸ CAP’s conclusions today are no different from what it reported in February 2017. <http://www.cap-az.com/documents/meetings/2017-02-16/1613-1.%20Impact%20of%20NGS%20closure.pdf>